

**Final Consolidated Public Comments and BLM Stillwater Field Office Responses for the Patua Geothermal Project Phase II Environmental Assessment (EA) DOI-BLM-NV-010-2011-0501**

**May 15, 2012.**

No.	Comment	Response
1.	Nevada Division of Environmental Protection (NDEP) – Bureau of Water Pollution Control (BWPC) – does not have any comments. Please note that Gradient Resources Inc., who manages this Patua II Geothermal Exploration project, may be subject to BWPC permitting associated with any of its discharges – including, but not limited to well development and UIC discharges.	Patua II EA – page 1-8 – section 1.4 Relationship to laws, Regulations, Policies and Plans “The proposed action is consistent with federal laws and regulations; other plans, programs, and policies of other federal agencies; and state and local government, to the extent practical within federal law, regulation, and policy.” Reference EA Table 1.4-1 (Continued) page 1-8 - 1-10. The Table lists “State regulatory Agencies/Permits and Approval for: NDOW, NDOCNR, NDWR, NDOT, NDEP (Air Pollution, Chemical Accident Prevention, Bureau of Water Pollution Control, and Bureau of Safe Drinking Water, Nevada Division of Industrial Relations, Occupational Health and Safety, NDOM, Bureau of Health and Protective Services, Health Division, NVSHOPO, Public Utilities Commission of Nevada and State Fire Marshal. In total there are Permits and Approvals required from 4 federal, 12 State Departments and 3 local governments.
2.	Nevada Department of Transportation (NDOT) comments: For any work performed within the State right-of-way, a temporary and/or permanent encroachment permit will be required from District II.	Please reference Response # 1 (Above).
3.	<p>Nevada Department of Wildlife Comments:</p> <p>1. NDOW is concerned that impacts to surface water resources may occur as a result of the Patua II Geothermal Exploration and Utilization Project. NDOW requests that a comprehensive monitoring and mitigation plan be completed and included in the EA regarding those Surface water resources. We recommend monitoring the quantity (i.e. flow rate of springs, volume of ponds/lakes, etc.) and quality (i.e. temperature, dissolved solvents, etc.) of surface waters. Furthermore, the mitigation plan should outline the various actions taken to minimize and/or compensate for impacts to wildlife and their habitat if surface water quantity or quality diminishes. NDOW would like to view water quality or quantity monitoring reports on a quarterly basis until such time that operation will not result in impacts to wildlife.</p> <p>2. NDOW recently (June 2011) discovered northern leopard frogs (<i>Rana pipiens</i>) near Massie Slough in Churchill County, which is</p>	<p>NDOW Comment 1.</p> <p>Patua II EA – Page 2-12 – Water wells would be cased to a depth below the lowest groundwater aquifer to prevent co-mingling fluids, in compliance with appropriate sections of the NRS 534A.010 through NRS 534A.090 and all applicable local, State and Federal regulations. A data collection system would be implemented during drilling to gather information about the hydrological aquifers encountered during drilling, in accordance with lease stipulations, specifically. Special Stipulations for Water Resources, requires a hydrological monitoring program be implemented and submitted to BLM.</p> <p>Patua EA – Page 2-15 – Application would be submitted to NDWR for approval to drill; on-site water well sources would be temporary, drilled by a licensed water well driller and plugged and abandoned in accordance with Nevada Administrative Code (NAC) 5334.420.</p> <p>EA – Page 4-5 – In accordance with lease stipulations, GRI would prepare and submit a Hydrologic Baseline Data Collection Plan for approval by the BLM and/or Reclamation prior to drilling. The Plan would be implemented during drilling and project operations.</p> <p>FONSI and Decision Record, Exhibit B Conditions of Approval – Operations shall be done in a manner which</p>

<p>near the project site (~3 miles). The Northern leopard frog is a Nevada state protected species, federal sensitive species, and listed in the Nevada Wildlife Action Plan (WAP) as a Species of Conservation Priority. The northern Leopard frog has been petitioned for listing under the Endangered Species Act (ESA) 1973; however, no designation is currently provided under this act. As a Nevada State protected species, federal sensitive species, and Species of Conservation Priority, efforts made toward preserving habitat are recommended. This includes ensuring geothermal wells do not alter Massie Slough hydrology, which would likely negatively impact this species. Massie Slough is especially important as this is the only recently documented population of Northern leopard frogs in Western Nevada. NDOW is willing to work with the proponent and BLM on monitoring the Massie Slough hydrology and Northern leopard frog population. If it is determined that geothermal well drilling is impacting Northern leopard frog habitat, appropriate mitigation should ensue in which we are willing to provide our expertise.</p> <p>3. NDOW has observed wildlife mortalities associated with reserve pits as a result of the best management practices being inadequate. Typical 4 strand wire fence surrounding reserve pits is inadequate at keeping terrestrial wildlife out of reserve pits and does nothing to prevent avian wildlife from entry and entrapment. Therefore, under (EA) section 2.3 we recommend incorporating additional wildlife protection measures into drilling sump/reserve pit designs. We recommend that all sumps containing potentially harmful liquids (e.g. toxic, temperature, physical properties of substance) to wildlife should be fenced and netted or bird balled. To exclude terrestrial and avian wildlife from entry. Additionally, immediate reclamation (e.g. liquid Management/Solidification) is recommended to occur as soon as sumps are no longer necessary. NDOW recommends using the following standards for Fencing, Netting and Bird Balls: The fence should be 8 feet high, the bottom 4 feet of which should be composed of woven or mesh wire with not greater than 2 inch mesh on the bottom 2 feet and maximum of 8 inch mesh on the top. The bottom should be placed tight to the</p>	<p>prevents damage, interference, or disruption of water flows and improvements associated with springs, wells, or impoundments. It is the operator's responsibility to enact the precautions necessary to prevent damage, interference, or disruption.</p> <p>NDOW Comment 2. Massie Slough is located approximately 3-4 miles outside of the Patua II EA Project Area on lands administered by Reclamation or private property and water fed from the Hazen Drain. Should NDOW choose to monitor Massie Slough during the project drilling phases NDOW could coordinate with Reclamation.</p> <p>NDOW Comment 3. Patua II EA Page- 2-7 The reserve pits and impoundments on well pads containing liquids as well as around drill rigs would be excluded from wildlife access by fencing, netting, or covering at all times when not in active uses, in accordance with the Gold Book standards (BLM and USFS 2007).</p> <p>Should wildlife exclusion standards denoted in the Gold Book not be adequate in preventing an over occurrence of wildlife mortalities, more stringent Nevada Department of Wildlife (NDOW) standards for fencing, netting, bird balls, escape ramps, reservoir slope and woven mesh wire could be considered by GRI.</p> <p>NDOW Comment 4. Patua II EA Appendix B – Page 3 – The seed mix would be developed by an experienced botanist is coordination with the BLM Reclamation and /or NDOW and would be based on seed availability and quality.</p>
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	<p>ground level to prevent animals from gaining access under the fence. The remainder of the fence above the woven or mesh wire should be smooth or barbed wire with a spacing of 10 inches, 12 inches, 12 inches and 14 inches beginning from the top of the woven or mesh wire. If cyclone or chain-link fence is to be used then the only conditions to be met are the 8 foot height and tight to the ground. These fences should be inspected and maintained to preclude wildlife access.</p> <p>Netting/Screening (1.5" mesh; secured to the ground; 4-5 feet above liquid solution surface): All potentially harmful liquid should be covered or contained in a manner that will preclude access by birds, bats, mammals and other wildlife. All covers or containers should be maintained in a manner that continues to preclude access by wildlife for as long as the pit/pond/tank contains liquid harmful to wildlife.</p> <p>Bird Balls: Bird balls should sufficiently cover (i.e. 95% coverage) the liquid surface at all times. Therefore, if free board exists, enough bird balls should be present to cover the liquid at greater than or equal to 95% coverage. Sumps that do not contain liquids harmful to wildlife should be graded to allow wildlife to escape or have escape ramps installed. Pits/Ponds/Tanks with Wall grades allowing Wildlife to escape. Ensure at least two sides are sloped 4:1 (horizontal: vertical) or flatter with the remaining sides sloped 2:1 (or flatter). Even with appropriate grading, wildlife slipping may be an issue (e.g. clay based drilling material) precluding successful escape. If slipping is an issue, then geo-mesh installation is recommended. If geo-mesh is utilized, it should occur in all corners (at least 8 feet wide) and the maximum distance between any two geo-mesh locations should not exceed 200 feet. Escape Ramps should be installed when sump walls are greater than 2:1 and or when synthetic liners are installed. Install escape ramps in all corners; escape ramps should be coated with geo-mesh; maximum distance between any two ramps should not exceed 200 feet.</p> <p>4. Reclamation: NDOW appreciates the BLM including us in the seed mix selection process for reclamation efforts. NDOW would like to be involved in other facets of the reclamation process. We recommend developing and including interim and final preliminary reclamation plans in the EA to</p>	
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	<p>adequately evaluate restoration actions and ensure long term habitat impacts are minimized. We recommend such reclamation plans include 1) appropriate seed mixes based on site potentials (e.g. soils), 2) Timing and potential methods for seeding, 3) the success criteria and monitoring efforts used to determine if reseeding efforts are successful, and 4) a contingency plan if reclamation activities are unsuccessful. We recommend further describing reclamation activities so that we can adequately evaluate restoration success.</p>	
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